SURF 2002
Cross Reference
School, Student, Project Title, and NIST Laboratory

SCHOOL	STUDENT	PROJECT TITLE	NIST LAB
American University	John Patrick Casey	Realization of the ITS-90 Below 84K	CSTL
Appalachian State University	Matthew Cass	QCSim: A Quantum Computer Simulation	ITL
	Erin Robertson	Stability Under Shear Flow of Strings in Model Emulsions	MSEL
	Rebecca Stamilio	Verifying SURF III as a Standard for Source-Based Radiometry □or□ Was $1.97 Million Really Worth It?	PL
	Sarah E. Thompson	Fire Pattern Re-Creation	BFRL/EEEL
Bates College	Amanda Slocum	Crystallographic Orientation of Surface Facets	MSEL
Brigham Young University	Jacob Anderson	Qubit-Radiation Field Entanglement	PL
	Yenny Martinez	Towards Controlled Interactions Between Qubits	PL
Bryn Mawr College	Mary Kutteruf	Fourier Transform Terahertz Spectroscopy of Amino Acids, Peptide Chains and Frozen Solvents	PL
	Jessie Rosenberg	Preparation and Characterization of Nanostructures for Surface Enhanced Raman Spectroscopy (SERS)	PL
Bucknell University	Matthew Paoletti	Characterization of Derived Porous Silicates and Bioencapsulated Catalytic Proteins	MSEL
Calvin College	Michael Scholten	Two-Beam-Excited Conical Emission	PL
Carnegie Mellon University	Michael Polyakov	Displaying Fourier Maps in FOX Using the Marching Cubes Algorithm	MSEL
	Michael Vahey	Characterization of MEMS Microheating Elements	EEEL

SCHOOL	STUDENT	PROJECT TITLE	NIST LAB
Case Western Reserve University	Margaret Polinkovsky	Reference Value Estimators in Key Comparisons	ITL
College of William and Mary	Andrew Busch	Ballistic Magnetoresistance in Nanocontacts	MSEL
	Kathryn Keister	20-Bit Precision Electronics for the Electrically Substituted Bolometer (ESB)	PL
Cornell University	Eric Hsu	Quantum Computing Simulation Optimizations and Non-Gaussian Errors on a Gaussian Density Operator	ITL
Drexel University	Joe Kopena	Translation Inference in the Process Specification Language	MEL
Georgia Southern University	Lisa DeBeer	Swimming in a 3D Optical Lattice	PL
Grinnell College	Sarah Campbell	Reference Lines in the Optogalvanic Spectra of Thorium and Uranium Over the Wavelength Range 422 – 462 nm	PL
	Thomas Parr	Synthesis of HSCH2CH2CH2O(CH2CH2O)3-8CH3 and Characterization of Their Self-Assembled Monolayers on Gold	CSTL
Gustavus Adolphus College	Chad Custer	Optimization of Portland Cement Pastes Containing Fly Ash: An Empirical Approach	BFRL
Hamilton College	James Baker	Spectral Narrowing of a High-Power Diode Laser Array for Spin-Exchange Optical Pumping	PL
Harvard University	Monika Schleier-Smith	The Production of Nitrogen-13 by Neutron Capture in Boron Compounds	PL
Jackson State University	Angela Fortner	Chemical and Electrochemical Synthesis of Gold-Polymer-Gold Nanowires for Multifunctional Sensor Investigation	CSTL
James Madison University	Evan Schwartz	X-Ray Microscopy with Multilayer Mirrors in K-B Configuration	CSTL
Kent State University	Violeta Beleva	Calibration and Evaluation of Prostate Brachytherapy Seeds at NIST	PL

SCHOOL	STUDENT	PROJECT TITLE	NIST LAB
Loyola College	Heather Begley	DNA Sequence Detection Through the Use of Peptide Nucleic Acids	CSTL
	Kerry Begley	Analysis of Ephedra Alkaloids in Dietary Supplements	CSTL
Massachusetts Institute of Technology	Alexandra Ford	Structure and Magnetic Properties of Electrodeposited Co and Co-Fe Thin Films on GaAs (001)	MSEL
McDaniel College (formerly Western Maryland College)	Christopher Drupieski	Characterizing the Response of Thermoluminescent Dosimeters to Beta, Gamma, and Broad-Spectrum X-Ray Radiation	PL
Miami (Ohio) University	Kathryn Lee	Uranium and Thorium: Radioactive Refugees or Simply Irrestible?	PL
New Mexico State University	Derek Powell	Scalability and Performance Limits of Planar and 6D Parallel Cantilever Bi-Axial Micro-Positioner	MEL
North Carolina State University	Robyn Bloch	Synthesis and Characterization of Titanium Dioxide (TiO2) Nanoparticles and Nanostructured Films	BFRL
Northeastern University	Igor Malioutov	Fusion of Face-Recognition Algorithms via Nonparametric Dependence Characteristics	ITL
Pennsylvania State University	Evan Pickett	BaO-ZnO-Ta2O5 and BaO-ZnO-Nb2O5: Phase Equilibria for Talking Ceramics	MSEL
Purdue University	Thomas Young	Effects of Surfactant Polymerization on Micellar Structure	MSEL
Radford University	Tim Dutton	Multi-Component, Three Dimensional, Viscoelastic Flow	MSEL
Rensselaer Polytechnic Institute	Kevin Bowers	An Adaptive Leasing Mechanism for Jini™	ITL
	Jack Damerji	Building a Multi-Biometric Authentication System	ITL

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	Maureen Desi	Fire Pattern Re-Creation	EEEL/BFRL
	Reza Hosseinzadeh	Temperature Control of the NIST Electronic Kilogram	EEEL
	Eranga Tyrrol Crossley Jayewardene	Design and Development of a Measurement and Control System to Calibrate Line Pitch Samples on the AMRAY Scanning Electron Microscope	MEL
	Mark Matarazzo	Wafer Inspection at Low Dimensions: Automated Resistivity Mapping System	EEEL
Rice University	Eliot Flannery	Speaker Verification	ITL
Rochester Institute of Technology	Matthew Aggleton	Magneto-Optical Indicator Film Imaging of Magnetostrictive Thin Films	MSEL
	Brad Conrad	2002: A Nanoparticle Sizing Odyssey	MSEL
Saint Mary's College of Maryland	Kevin Beanland	Comparison of Scanning Electro Microscope Simulation Programs MONSEL and Metrologia	MEL
	Jonathan Mulholland	Micro-Force Measurement with Piezo-Resistive Cantilevers	EEEL
Santa Monica College	Derrik Asher	The Cell General	MSEL
	Maria Kim	Limitations on Scaling of Silicon Dioxide as Gate Dielectric	EEEL
	Liliya Krivulina	Effects of Delay Mismatch in MPLS Networks with 1+1 Protection	ITL
	Han Kyu Lee	Polarimeter Using Photoelastic Modulator	PL
Southern Methodist University	April K. Andreas	Estimating the Work of Integer Partitions	ITL
Southern University and A&M College	Cari Bershell	That's Good, But You Can Do Better	PL

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	Brandan Darensbourg	Laser Tracker Calibration for Acquiring the Values of Alignment Parameters Through a New Technique of Using Distance Measurement with the Lieca LTD500 Laser Tracker	MEL
	Rachel McKinsey	Characterization of the Water Calorimeters	PL
	Shelli Pace	Directional Solidification of Eutectic Alloys in the Ag-Cu-Sn System	MSEL
	Kenya Thomas	The Effects of Calcium, Phosphate, Light, and Time on the Stability of Peroxides	MSEL
	Erica Walton	Third Order Discretely Sampled Constrained Trajectory Generation	MEL
State University of New York – Binghamton	Paul Fleming	Silicon Based Single Electron Tunneling Transistors	EEEL
	Sebastian Larrea	Probability Plot Correlation Coefficient Test for Lognormally Distributed Void Radii in Entrained Concrete	BFRL
State University of New York – Oswego	Nathan Hoteling	Characterization of Sealant Formulations	BFRL
Texas Tech University	Tigist Belete	Nondestructive Evaluation of Fiber Reinforced Polymer Composites Bonded to Concrete	BFRL
Truman State University	Kevin Haworth	Improving Beam Imaging of Synchrotron Radiation at SURF III (aka Size Does Matter)	PL
Tulane University	Leah Broussard	Polarized Neutron Beam Characterization	PL
University of California – Berkeley	Jacob Scott	Distributed Computing in Java: The Screen Saver Science Project	ITL

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University of California – Irvine	Siavosh Bahrami	A Study of Behavioral Expectations and Consistency in Human-Robot Interaction	ITL
	Heather Coman	The Accuracy of Current ACI Building Codes for Predicting the Effect of Carbon FRP on the Deflection of Concrete Beams	BFRL
	Tam Duong	Web-Based Database for NIST Electrical Standards Laboratories	EEEL
	Hoang Minh Ho Dac	Graphical User Interface for Fire Fighter Protective Clothing Simulator	BFRL
	Puja Gupta	Analysis of Conductivity in Mono-Crystalline Electrical Linewidth Structures	EEEL
	Mark Lawrence	Tunable LED Based Light Source	PL
	Roshni Malani	Testing Disk Imaging Tools	ITL
	David Stout	Development of a Liquid Chromatographic Method for the Analysis of Atmospheric Aerosol Samples	CSTL
	Twi Le Tran	Java Programming Support for Visualization Construction	BFRL
	Kris Vaughn	Vibration Isolation of the NIST Watt Balance	EEEL
University of California – Los Angeles	Amarpreet Cheema	Elliptic Curve Digital Signature Algorithm (ECDSA) Validation Tests	ITL
University of Maryland – Baltimore County	Ali Deyhim	Quantitative Contrast Variation Analysis of MS2-Like Virus Particles for Future Use in Clinical Diagnostics	MSEL
	Elizabeth Humphries	Photobleaching and the Damage of DNA During Fluorescent Detection	CSTL

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University of Maryland – College Park	Wendy Chou	Testing Random Number Generators Using the NIST Statistical Test Suite	ITL
	Stuart Fletcher	Automatic Table Generation for Values of Special Functions	ITL
University of Massachusetts – Amherst	Nathan Barr	Validation of the ebXML Business Process Catalog	MEL
University of North Carolina – Chapel Hill	Vadas Gintautas	Effect of Suspending Medium and Particle Size on Dispersion of Fine Alumina Powders for Laser Diffraction Analysis	MSEL/ BFRL
University of North Carolina – Charlotte	April Cooke	Calibrated Micropyrometer Measurement of the Tool-Chip Interface in Machining	MEL
University of Puerto Rico	Xiomara Calderón Colón	Real-Time Measurements of Clay Dispersion Using VIS Dye Probes	BFRL
	Yaireska M. Collado-Vega	Characterization of Air Flow in a Manufactured House	BFRL
	Saylisse Dávila	Optimizing PID Algorithms Using Smart Sensor Control	MEL
	Angel Fuentes Figueroa	Measuring the Diffusion Coefficient of Small Molecules on Different Polymer Films	MSEL
	Rafael S. García-Cortés	A New IMPACT in Silicon Carbide Power Devices	EEEL
	Angélica Pérez-Andújar	Detectors Performance for Radiation Measurements for Home Land Security	PL
	Rolando E. Vega Ávila	Testing the Capacity of Manufactured Home Walls to Withstand Horizontal Loads	BFRL
University of Rochester	Ross Camara	IT Support of Nanoindentation	BFRL

SCHOOL	STUDENT	PROJECT TITLE	NIST LAB
University of Wisconsin – Madison	Michelle Shah	Investigations in Linear Motor Dynamics	MEL
Valparaiso University	Steven Wolf	Where No Man Has Gone Before	BFRL
Vanderbilt University	Melanie Bernard	Development of Crystallization Strategies	CSTL
Virginia Polytechnic Institute	Kai Zuehlke	Comparison of Sensor-Driven Fire Model Algorithms with Experiment	BFRL
Wellesley College	Alyssa Meyer	Liposomes as Microreactors	PL
Western New England College	Craig Beal	Holding Next to Nothing	MEL
Williams College	Rachel Gealy	Two Beam Non-Linear Optical Effects	PL
York College of Pennsylvania	Stephanie McLean	An Analysis of Time-Dependant Degradation of Organic Additives in Gunshot Residue	CSTL

BFRL – Building and Fire Research Laboratory, CSTL – Chemical Science and Technology Laboratory,
EEEL – Electronics and Electrical Engineering Laboratory, ITL – Information Technology Laboratory,
MEL – Manufacturing Engineering Laboratory, MSEL – Materials Science and Engineering Laboratory, PL - Physics Laboratory.